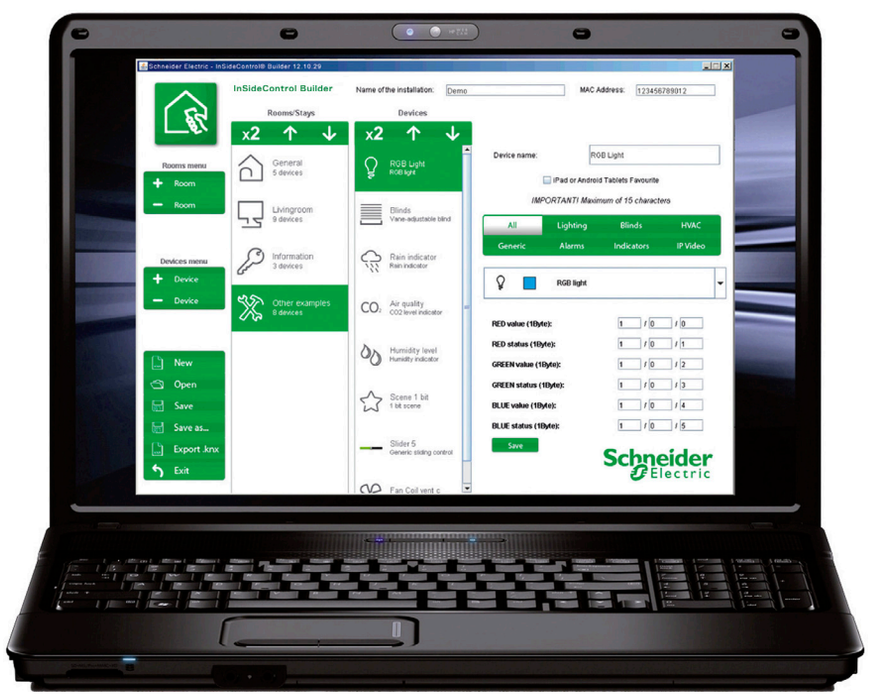
InSideControl

InSideControl Builder System Overview

User manual

This document provides a system overview of InSideControl and describes the InSideControl Builder software.

03/2013-00



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This User Manual

This document describes the InSideControl system and the use of the software *InSideControl Builder*.

Read all instructions, safety instructions and this user manual carefully before commissioning to ensure that the App is used safely and correctly.

- Schneider Electric cannot be held responsible for performance problems and incompatibilities caused by applications, services or devices from third-party providers.
- Applications/devices and their functions may differ according to country, region or hardware specifications.
- Images and screenshots in this user manual may differ from the actual product.
- The latest software for Windows and MAC OS X, along with the relevant documentation, is available at www.schneider-electric.com or directly under the following QR code.

http://www2.schneider-electric.com/sites/corporate/en/products-services/product-launch/knx/knx-inside-control.page

- Keep this manual for reference purposes.

Conventions

Abbreviations used

The following terms and abbreviations are used in this document.

Use	Abbreviation for	Explanation
Builder	InSideControl Builder	Software used for configuring the functions in the InSideControl App/HD App applications.
App	InSideControl App	Application for a Smartphone based on iOS or Android
HD App	InSideControl HD App	Application for a tablet based on iOS or Android
IP gateway	KNX InSideControl IP gateway	The KNX InSideControl IP gateway connects your local network with the KNX installation. With a portable device, you can access your KNX installation via the IP gateway, as well as controlling functions and receiving status messages (e.g. warning notifications).

Instructions used

ATTENTION

ATTENTION points to a situation which could result in material damage.

The information provided must be complied with, otherwise program errors may occur, or functions may be become unavailable or limited.

These tips and tricks also contain additional information on a topic and instructions to make your work easier.

Instructions and information, which only apply to portable devices with the Android operating system.

Instructions and information, which only apply to portable devices with the iOS operating system.

Text features used

The following notation and text features are used in this document.

Text feature	Meaning
[F6]	Keys on the keyboard
Software	Software names, buttons, values (selection fields) or system messages from the software are shown as grey italic text.
File / Save	Menu and menu sequences
Operating Section	Cross-references or Internet addresses

For your safety

ATTENTION

Danger of material damage through unauthorised access to the KNX installation resulting from incorrect network installation.

Secure network installation can only be ensured if the person in question can prove basic knowledge in the following areas:

- Connection to installation networks
- Connecting several electrical devices
- Laying of network cables
- Connecting and establishing KNX networks
- IP networking technology: connection and configuration of local area networks
- IP networking technology: configuration of WLAN and VPN access and remote access to local area networks

These skills and experience are normally only possessed by skilled professionals who are trained in the field of electrical installation and networking technology. If these minimum requirements are not met or are disregarded in any way, you will be solely liable for any damage to property or personal injury.

Basic knowledge of the operating methods for Windows or Apple programs under the respective operating systems is a prerequisite for using the programs.

This user manual assumes that your computer is compatible with your portable device and that the drivers required for exchanging information between your computer and portable device are correctly configured.

Introduction to InSideControl

With InSideControl, you can control your KNX installation and therefore your entire house with a portable device (Smartphone or tablet). For this, the application *InSideControl App* or *InSideControl HD App* must be installed on the portable device. The access to the KNX installation via the portable device takes place either via the local network (WLAN) or via a VPN access.

Among other things, you can use InSideControl to control lighting, blinds or heating individually or to call up multiple devices at the same time via scenes. Messages from the KNX installation can also be received (e.g. a flood message or energy consumption display).

To allow InSideControl to access your KNX installation, a KNX InSideControl IP gateway (Art. No.: xxx6500-0113) must be installed in your KNX installation.

An IP gateway can be connected to up to five portable devices simultaneously. Each portable device can be equipped with an individual configuration. This enables the access for a portable device to be restricted to specific devices in a room, for example.

An optimal connection is achieved with up to three portable devices. If more than three portable devices are connected simultaneously to an IP gateway, the transmission speed may be reduced.

VPN access

With InSideControl, you can also access your KNX installation with a portable device via WAN. More information on this is provided in Section VPN access --> 40

Supported portable devices

The *App/HD App* was developed for portable devices such as Smartphones and tablets and is available for the operating systems Apple iOS and Google Android.

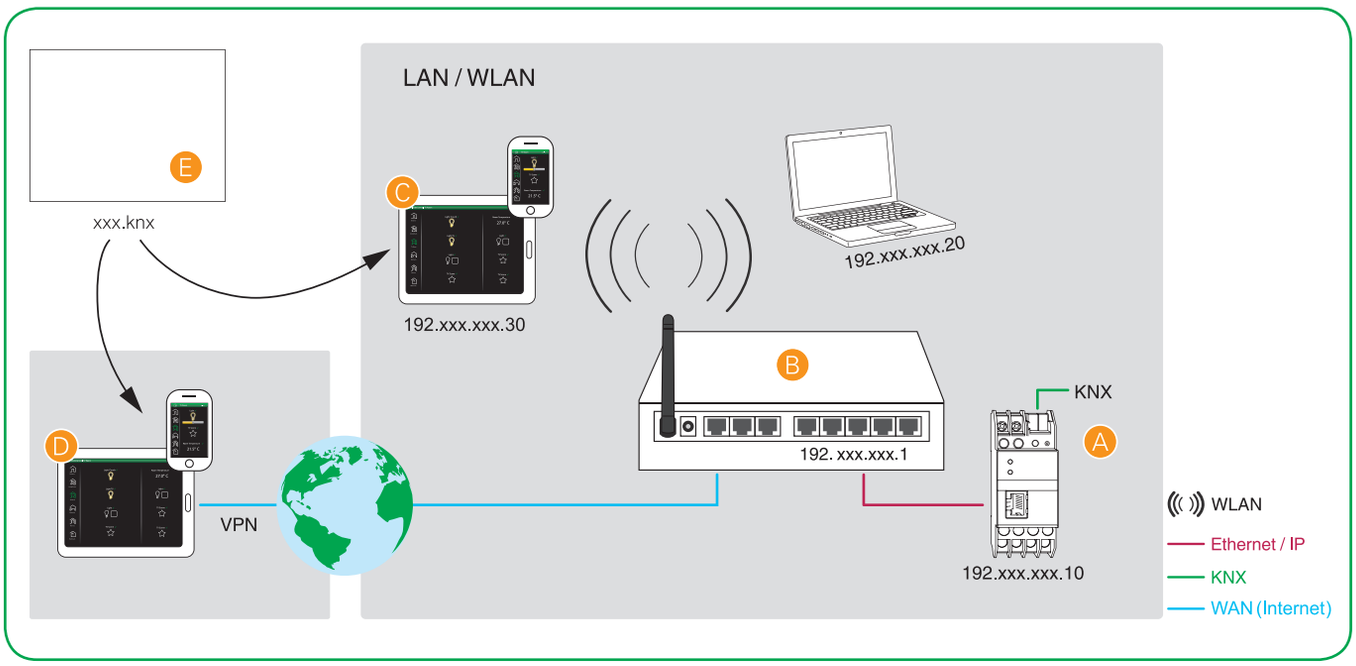
There are two *Apps* available, which are optimised for specific portable device set-ups:

- *InSideControl App* for Smartphones
- *InSideControl HD App* for tablets

System requirements

Android Smartphones:	Version 1.5 Cupcake or higher
Android tablets:	Version 2.1 Eclair or higher
	InSideControl HD App is optimised for portable devices with a minimum screen size of 17.78 cm (7") or a resolution of 1280 px.
Apple:	iOS 5 or higher

System Overview



Ⓐ KNX installation and IP gateway
Ⓑ Router
Ⓒ Portable devices in WLAN
Ⓓ Portable devices with VPN access
Ⓔ Builder

The following basic steps must be performed in order to be able to use *InSideControl*:

- *InSideControl Builder*
  - Download and install *Builder*
  - Create a project
  - Create a configuration file (xxx.knx)
- *InSideControl App/HD App*
  - Install the *App / HD App* on the portable devices
- Transfer the configuration file to portable devices
- Connect portable devices to the IP gateway

InSideControl Builder

The *InSideControl Builder* represents the connection element between the ETS planning and the *App/HD App*. You use *InSideControl Builder* to create the desired functions that are then visualised in the *App/HD App*. You define rooms/areas, add devices to the rooms and enter the corresponding ETS group addresses from the ETS project.

A comprehensive collection of icons for rooms and devices is provided for visualisation purposes.

After finishing the project in Builder you create a configuration file containing all the relevant visualisation data and the information required for connecting to your IP gateway. You then transfer the configuration file to the portable device and connect the portable device to the IP gateway.

Basic procedure for creating a project:

- Create project data
- Add a room
- Add a device
- Export the configuration file.

You can create a maximum of 20 rooms with a maximum of 20 devices in each room.

The latest software for Windows and MAC OS X, along with the relevant documentation, is available at www.schneider-electric.com or directly under the following QR code.

http://www2.schneider-electric.com/sites/corporate/en/products-services/product-launch/knx/knx-inside-control.page

System requirements

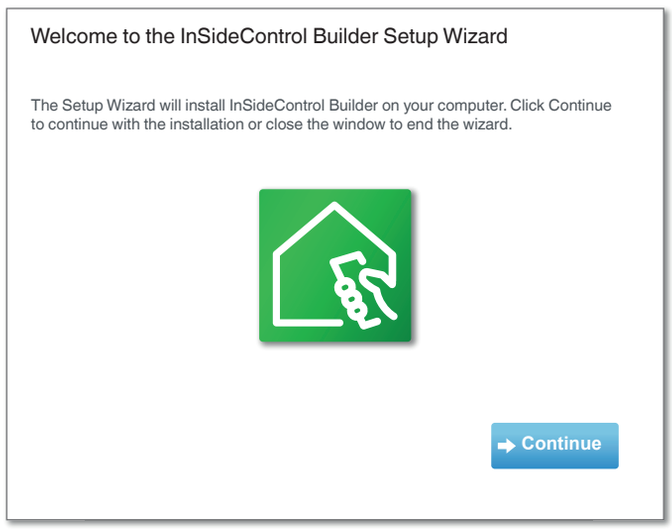
Windows:	Hard disk: 250 MB free space
Windows XP or later	RAM: 512 MB
Mac:	Java Virtual Machine: 1.6 or higher
Mac OS 10.5 (Leopard) or later	Screen resolution: at least 1024 x 748 pixels

Installation

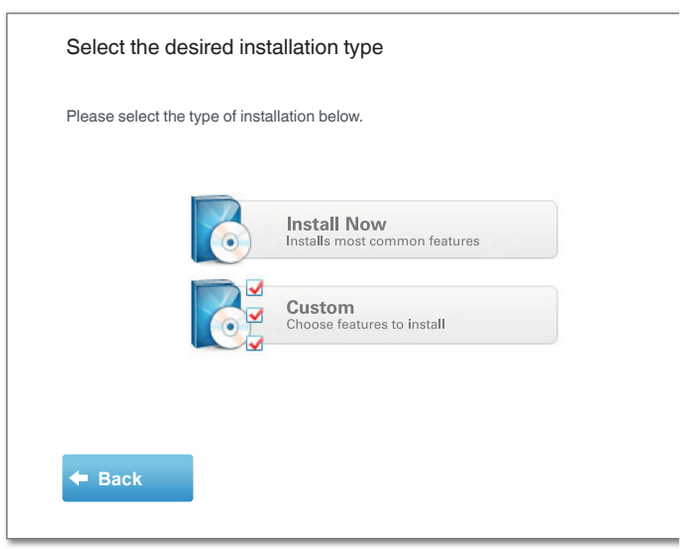
Download the latest version of the software from www.schneider-electric.com.

Installation in Windows

① Run *InSideControl for Windows.exe* and follow the installation wizard instructions.
② Click *Continue*.


Welcome to the InSideControl Builder Setup Wizard
The Setup Wizard will install InSideControl Builder on your computer. Click Continue to continue with the installation or close the window to end the wizard.
Continue

Once the system files have loaded, the following screen is displayed.
③ Click *Install Now* to proceed.

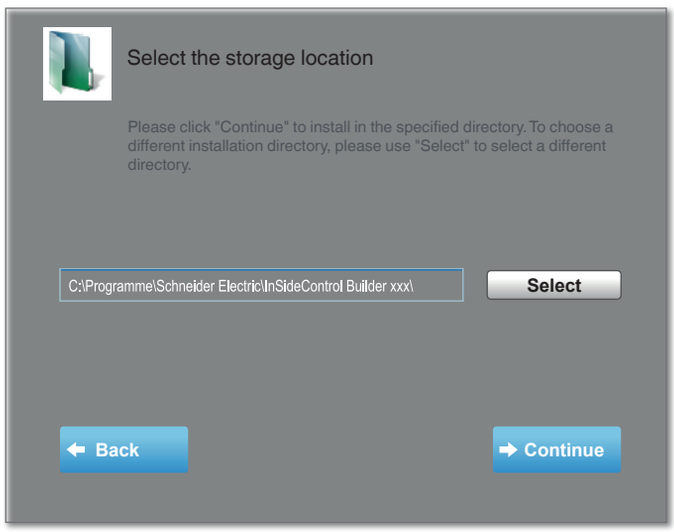


InSideControl asks you to specify an installation location.

④ Click *Select* if you wish to install in a different location.

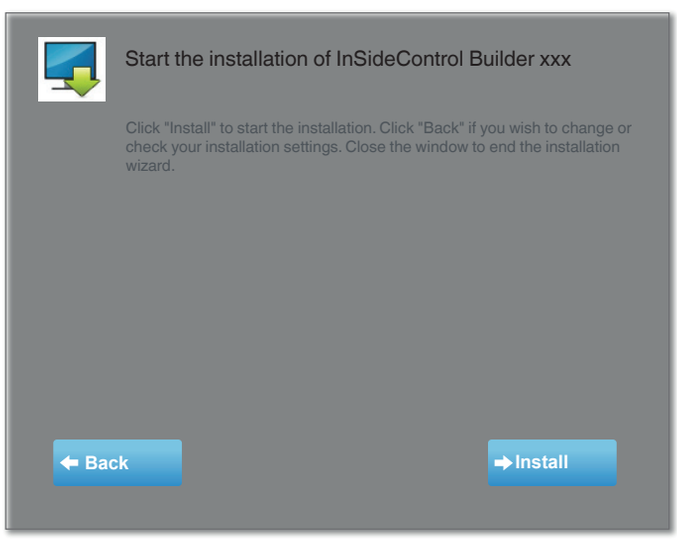
⑤ Select the desired folder in your system.

⑥ Click *Continue* when you have selected the desired installation location.


Select the storage location
Please click "Continue" to install in the specified directory. To choose a different installation directory, please use "Select" to select a different directory.
C:\Programme\Schneider Electric\InSideControl Builder xxx\
Select
Back
Continue

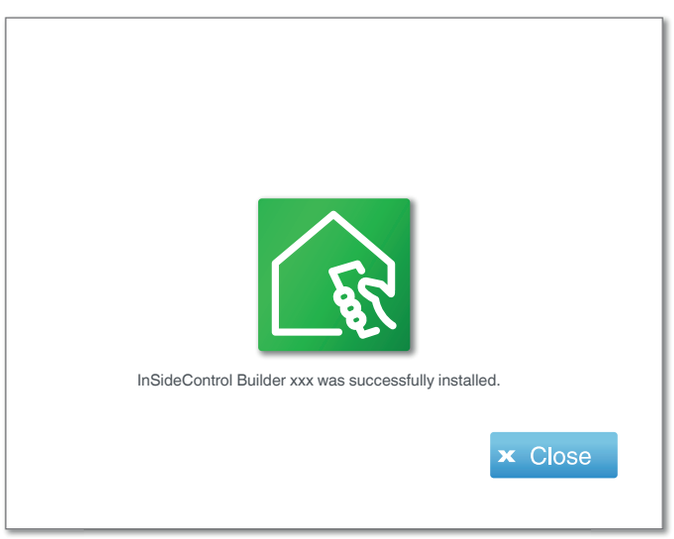
⑦ Click *Install* to start the installation and copy the program files.

Under *Windows 7* a software installation dialog box is displayed and you must click *Yes* to confirm this dialog box.


Start the installation of InSideControl Builder xxx
Click "Install" to start the installation. Click "Back" if you wish to change or check your installation settings. Close the window to end the installation wizard.
Back
Install

⑧ Click *Close* to exit the installation wizard.

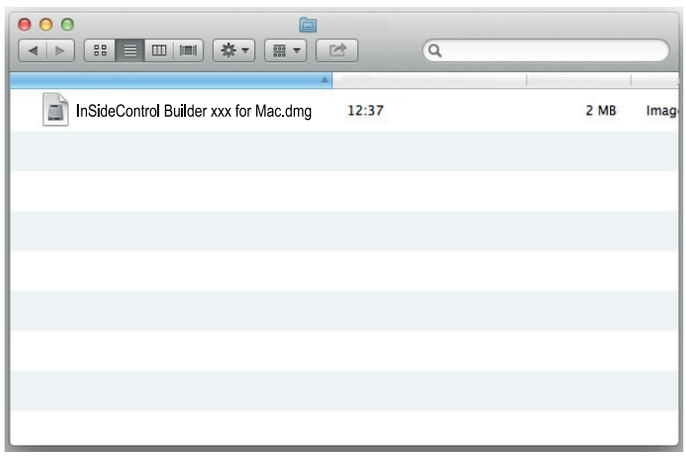
You can now start InSideControl Builder via the Start menu or the shortcut on the Desktop.



Installation in Mac OS X

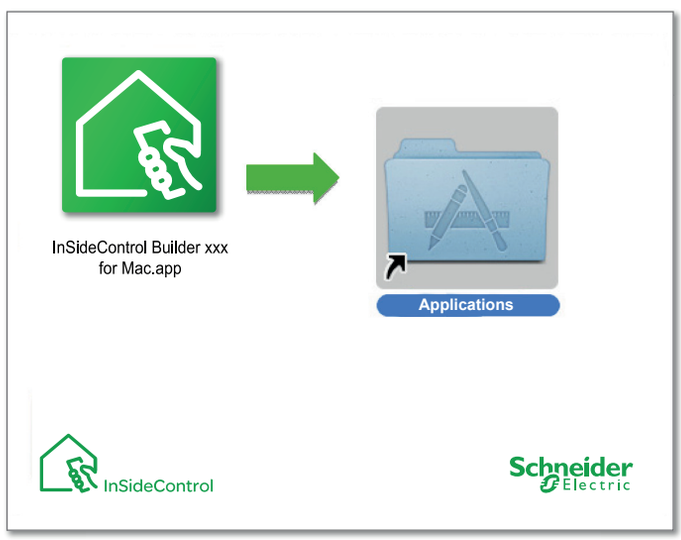
Requirement: you must install the correct Java environment for your version of Mac OS X in order to install *InSideControl Builder* and obtain full functionality. Apple Support Inc. will provide you with the necessary information for installing Java.

① Double-click the file *InSideControl xxx for MAC.dmg.*



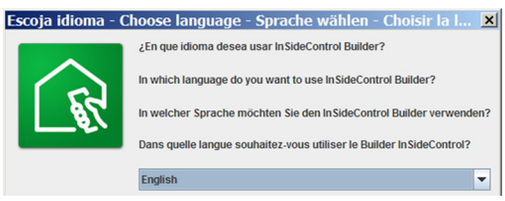
The installation window with *Applications* is displayed.

② Drag the InSideControl icon onto *Applications* to complete the installation.

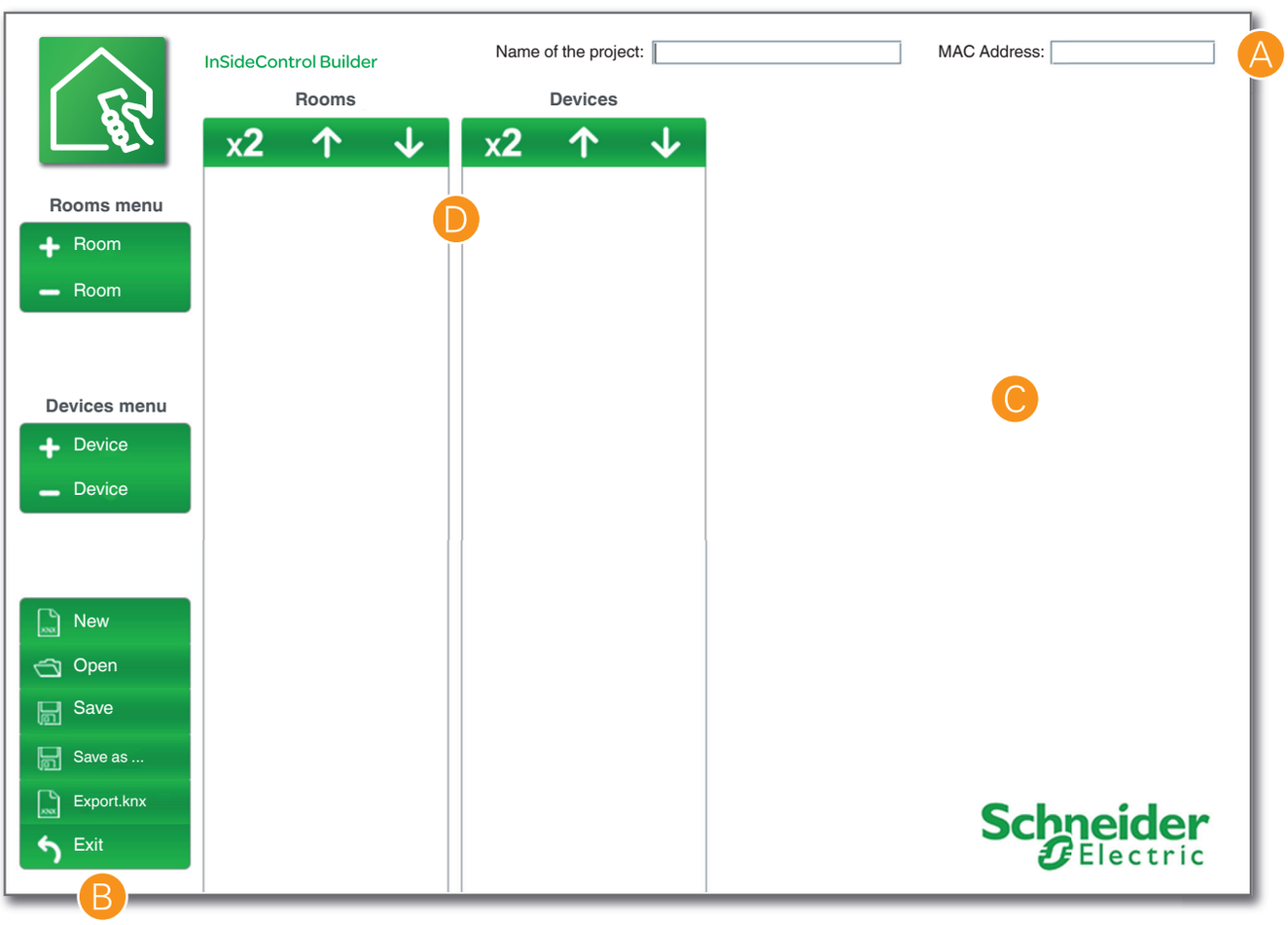


The user interface

① Start *InSideControl Builder* and select your desired language.


Escoja idioma - Choose language - Sprache wählen - Choisir la l...
¿En que idioma desea usar InSideControl Builder?
In which language do you want to use InSideControl Builder?
In welcher Sprache möchten Sie den InSideControl Builder verwenden?
Dans quelle langue souhaitez-vous utiliser le Builder InSideControl?
English

After starting, the workspace is displayed, which is divided into the following areas.



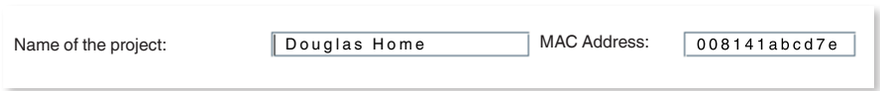
Ⓐ Project data area

Ⓑ Control palette

Ⓒ Configuration area

Ⓓ Display area for rooms and devices

Project data area



Name of the project:

Enter a descriptive name for the system here. This name is displayed in the status bar of the *App/HD App* and should not be longer than 12 characters.

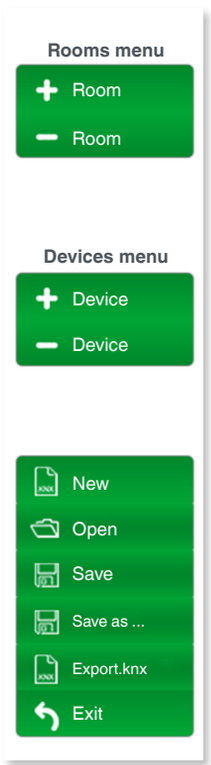
MAC Address:

Enter the MAC address of your gateway here, in lower-case and without delimiter characters or spaces (max. 12 characters).

You can only control your KNX installation using the correct MAC address of your IP gateway.

Control palette

The control palette consists of the rooms menu, the devices menu and the file menu. All higher level commands are contained here.



Rooms menu:

+ *Room:* Add a new room.

- *Room*: Delete a room and all devices it contains.

Devices menu:

+ *Device:* Add a new device.

- *Device*: Delete a device.

File menu:

– *New/Open*: Create a new project file or open an existing project file.

– *Save/Save as ...*: Save your project file (xxx.shb) or save your project file under another name to create a backup copy.

– *Export.knx*: After configuring the project you create the configuration file (xxx.knx) here. You then transfer this configuration file to the portable device. The configuration file contains all the relevant data of the KNX installation and the display data for the *App/HD App*.

– *Exit*: This ends the *Builder*.

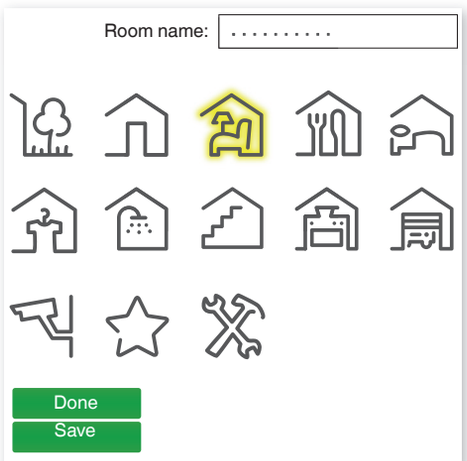
Configuration area

All icons and names you define in the configuration area appear in the *App/HD App*.

Rooms

A room is an area used for grouping various devices (e.g. lamps, blinds, displays, warning notifications). A room must contain at least one device.

After adding a room via + *Room* the following elements are displayed:



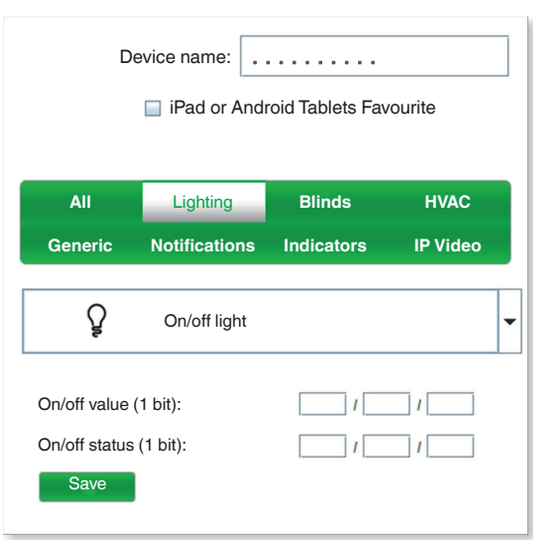
– *Room name:* Enter a descriptive name for the room using a maximum of 15 characters and select the icon to be used for representing the room in the *App* .

A description of the icons is provided in Section Meaning of the icons --> 21.

Devices

Devices are (e.g.) lamps, blinds, warning notifications or temperature displays. Each device has corresponding group addresses that you adopt from your ETS project. Devices are always assigned to one or more rooms.

After adding a device via + *Device* the following elements are displayed:



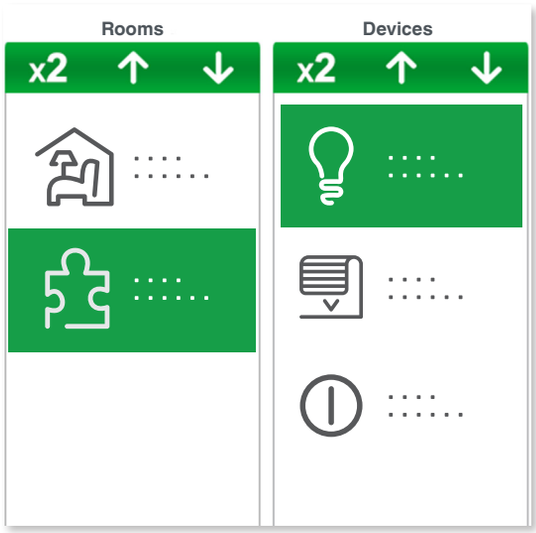
Here you assign a device name using a maximum of 15 characters, select a device from the various categories and enter the associated group addresses. A device can appear multiple times in the different categories.

You can also optionally define the device as a favourite on a tablet. This makes the device always visible in the tablet user interface to allow quick access. A maximum of 4 devices can be defined as favourites.

A description of the icons is provided in Section Meaning of the icons --> 21.

Display area for rooms and devices

This area shows all planned rooms and assigned devices.



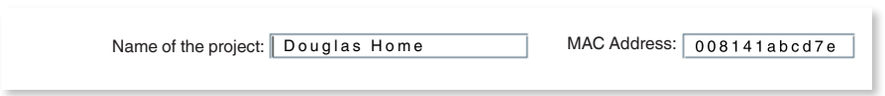
- *x2*: Copy room. Copies the room with all devices, labels and icons. The group addresses are not copied.
- *x2*: Copy device. Copies the device with the name, icon and group addresses into the same room.
- *Arrow*: Change the sequence of the rooms and devices. The sequence defined here is shown in the *App/HD App*.
- Coloured background: Selected room or device.

A description of the icons is provided in Section Meaning of the icons --> 21.

Creating a project

You need the group addresses used in the ETS project in order to create a project.

Creating project data



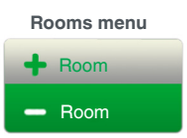
① Enter the name of the project.
⇒ This name is displayed in the *App/HD App* and should not be longer than 12 characters.

② Enter the MAC address of your IP gateway here.
⇒ The MAC address consists of 12 characters. Enter the MAC address into the field in lowercase without delimiters or spaces (example: *008141adcd7e*).

Adding a room

Rooms are areas to which at least 1 device has been assigned.

① Click + *Room*.

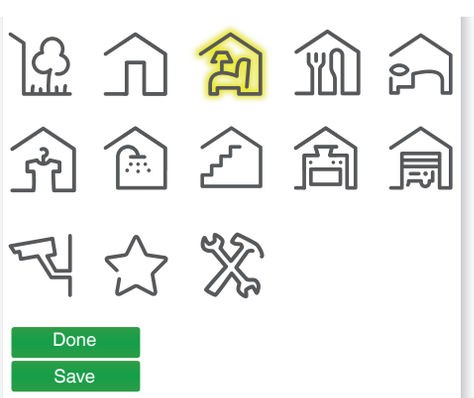


② Enter the room name.
⇒ A maximum of 15 characters are permitted.

Select your room icon.

③ When you have selected the desired icon, click *Save*.
Click *Change* if you wish to use a different room icon.
⇒ All room icons are displayed.

④ Once you have selected your room icon, click either *Done* or *Save*.
⇒ *Done*: The room is displayed in the area showing the planned rooms and the list closes.
⇒ *Save*: The room is displayed in the area showing the planned rooms and the list remains open.

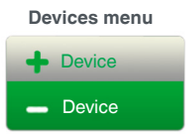


A description of the icons is provided in Section Meaning of the icons --> 21.

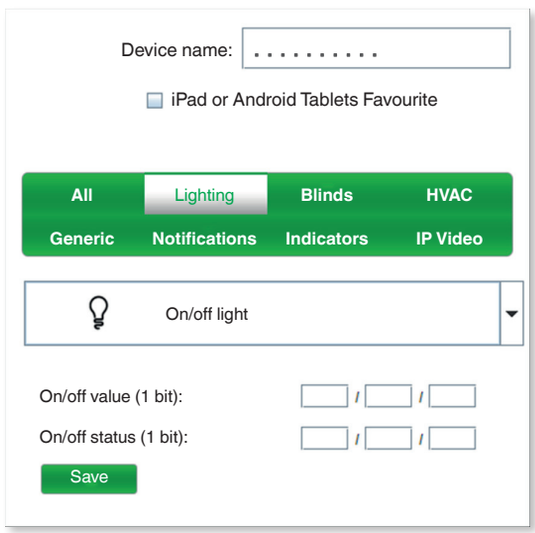
Adding a device

A device is always assigned to a room. Click the room in which you wish to add a device. The room is highlighted with a coloured background.

① Click + *Device*.
⇒ All devices are listed in different categories.



② Enter the device name.
⇒ A maximum of 15 characters are permitted.
③ Optionally for a tablet: activate *iPad or Android Tablets Favourite*.
⇒ The device is then visible as a favourite on a tablet. A maximum of 4 devices can be defined as favourites.
④ Select the desired device with an icon from a device group.
⑤ Enter the required group addresses from the ETS project.
⑥ Click *Save*.



A description of the icons is provided in Section Meaning of the icons --> 21.

Deleting a room/device

Unintentionally deleted rooms or devices can only be restored by repeating the manual configuration.

Deleting a room

① Click the room that you wish to delete.

⇒ The room is highlighted with a coloured background.

② Click - *Room*.

⇒ The room is deleted.

Deleting a device

① Click the device that you wish to delete.

⇒ The device is highlighted with a green background.

② Click - *Device*.

⇒ The device is deleted.

Creating a configuration file

After finishing your project you create the configuration file (xxx.knx). The configuration file contains all the relevant data of the KNX installation and the display data for the *App/HD App*. You then transfer the configuration file to the portable device.

① Click *Export.knx*.

② Select the storage location and enter an appropriate file name.

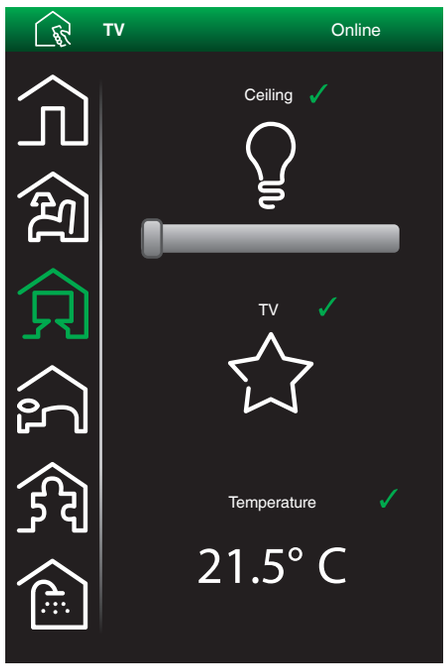
③ Click *Save*.

The procedure for transferring the configuration file to the portable device is described in Section Transferring the configuration file to portable devices --> 36

Meaning of the icons

The icons and names you have selected are displayed in the *App/HD App*. The icons should make it easier for the user to find the desired room and device in the *App/HD App*.

App: Room level display



App: Device level display

- Room icons have no effect on the function. The list of room icons therefore only provides suggestions for appropriate use.
- You must select devices and their corresponding icons according to the functions in the KNX installation because different devices have different types of group addresses.

Room icons

When you select a room in *Builder*, the colour of the room icon changes.

Room selected

Here are some examples of room icons for representing rooms or areas:

Living room

Dining room

Kitchen

Staircase

Bathroom

Front door

Bedroom

TV room, TV

Dressing room

Children's room

Garden, terrace, back yard

Library

Garage

Area for cameras or monitoring

Area for scenes

Area for energy efficiency (energy meters, power consumption, ...)

Inform your customer of the icons you have selected and the meanings of the rooms or areas.

Device icons

The tables below list the following information for all devices:

- The application cases for the device.
- The communication objects available in *Builder* and the corresponding communication objects in the ETS. The designation can be different for each actuator or sensor in the ETS.
- The behaviour of the devices in the *App/HD App.*

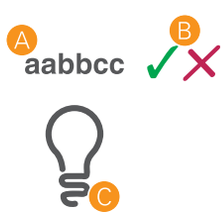
The status query

To ensure that the current device status is always displayed in the *App/HD App*, InSideControl sends read requests to the KNX bus at various points in time. These points in time are:

- When the *App/HD App* is started:
  All group addresses with status information are queried via the read command.
- When a room is called up:
  Group addresses with status information that are assigned to this room are queried via the read command.
- When a device name is tapped.

The status query and update may take several seconds depending on the scope of the project and the quality of the connection.

Two icons next to the device name in the *App/HD App* indicate whether or not the status query was successful.



Ⓐ Device name

Ⓑ Result of the status query

✓ The status query was successful, the status is known. The device can be controlled.

✗ The status query was not successful, the status is unknown. The device cannot be controlled.

Ⓒ Device icon

Lighting

In the *App/HD App*, rooms in which at least one light icon is active (light on) are displayed illuminated.

On/off light				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch light on/off	On/off value (1 bit)	⇨	Switch object	On/off value (1 bit)
	On/off status (1 bit)	⇨	Status feedback object	

Behaviour in the *App*:
Tapping the icon = switch on/off. The user can only perform switching when the status is known.

On/off light with forced update				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch light on/off	On/off value (1 bit)	⇨	Switch object	On/off value (1 bit)
	On/off status (1 bit)	⇨	Status feedback object	

Behaviour in the *App*:
Tapping the icon = switch on/off. The user can only perform switching when the status is known. After the switching telegram a read request is sent to the status feedback object of the actuator to ensure the status.

Dimming light				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch light on/off and dim	On/off value (1 bit)	⇨	Switch object	On/off value (1 bit)
	On/off status (1 bit)	⇨	Switching status feedback	
	Dimming value (1 Byte)	⇨	Dimming value object	
	Dimming status (1 Byte)	⇨	Value object status feedback	

Behaviour in the *App*:
Tapping the icon = switch on/off. The user can only perform switching when the status is known.
When moving the slider control the value telegram is not sent until the control is released. From a dimming value of 1% the slider control display is activated and updated with the 1 Byte status object.

RGB light				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch RGB light source on/off and control the colours	RED value (1 Byte)	⇨	Value object for red	All value objects
	RED status (1 Byte)	⇨	Status feedback object for red	
	GREEN value (1 Byte)	⇨	Value object for green	
	GREEN status (1 Byte)	⇨	Status feedback object for green	
	BLUE value (1 Byte)	⇨	Value object for blue	
	BLUE status (1 Byte)	⇨	Status feedback object for blue	

Behaviour in the *App*:
After the user has selected a colour, a 1 Byte telegram is sent for each colour.

Blinds

Blind/Roller shutter w. height positioning				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Move roller shutter or simple blinds up/down, stop them and manually move to a specified height position.	UP/DOWN value (1 bit)	⇨	Movement object	Height value (1 Byte)
	STOP value (1 bit)	⇨	Stop object	
	Height value (1 Byte)	⇨	Height position	
	Height status (1 Byte)	⇨	Height status feedback	

Behaviour in the *App*:
Tapping the *Up*, *Down* and *Stop* icons sends a 1 bit telegram.
Moving the slider control immediately sends the 1 Byte value telegram for the height position. The slider control display is updated with the 1 Byte status feedback object.

Blind with height/slat positioning				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Move blinds up/down, move blinds stepwise, stop blinds, manually move to a specified height position and slat position.	UP/DOWN value (1 bit)	⇨	Movement object	Height value (1 Byte) and Vane position value (1 Byte)
	STOP value (1 bit)	⇨	Stop/step object	
	Height value (1 Byte)	⇨	Height position	
	Height status (1 Byte)	⇨	Height status feedback	
	Vane position value (1 Byte)	⇨	Slat position	
	Vane position status (1 Byte)	⇨	Slat status feedback	

Behaviour in the *App*:
Tapping the *Up*, *Down* and *Stop/Step* icons sends a 1 bit telegram.
Moving the slider control immediately sends the 1 Byte value telegram for the height position or slat opening position. The slider control display is updated with the corresponding 1 Byte status feedback objects.

Roller shutter				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Move roller shutter up/down and stop.	UP/DOWN value (1 bit)	⇨	Movement object	No status query
	STOP value (1 bit)	⇨	Stop object	

Behaviour in the *App*:
Tapping the *Up*, *Down* and *Stop* icons sends a 1 bit telegram.

Gradhermetic blinds with slats				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Move blinds from Gradhermetic up/down, stop and pivot	UP value (1 bit)	⇨	Movement object Up	No status query
	DOWN value (1 bit)	⇨	Movement object Down	

Behaviour in the *App*:
Tapping the *Up*, *Down* and *Stop* icons sends a 1 bit telegram.
Move blinds up/down: pressing *Up* or *Down* activates the *Up-Down* operating mode. Tapping *Up* or *Down* again moves the blinds to the lower or upper end position.
Open/close slats: pressing *Stop* activates the *Pivot* operating mode. Tapping *Up* or *Down* now opens or closes the slats.

HVAC - Heating , ventilation and air-conditioning

Setpoint temperature +/- 0.5 °C (DPT9.001) **Setpoint temperature +/- 1 °C (DPT9.001)**				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Change the setpoint temperature in steps of 0.5 °C or 1 °C.	Temperature value (2 Byte)	⇨	Setpoint adjustment	Temperature value (2 Byte)
	Temperature status (2 Byte)	⇨	Status feedback of current setpoint temperature	

Behaviour in the *App*:
Tapping +/- sends a 2 Byte telegram and the setpoint is changed stepwise. The status object is updated with a status telegram on each actuation. The setpoint cannot be further changed until a status telegram has been received.

HVAC mode control				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Toggling between operating modes via 1 Byte.	Mode selection (1 Byte)	⇨	Operating mode	Mode selection (1 Byte)
	Mode status (1 Byte)	⇨	Operating mode status	

Behaviour in the *App*:
Tapping an icon sends a 1 Byte telegram. The user can choose between the modes Comfort, Standby, Night and Frost/Heat protection.
The element expects a status feedback message from the room temperature controller. The operating mode icon is not highlighted until the status feedback message is received. If the room temperature controller does not independently send the status feedback message, then the user must tap the device name to trigger a status query.

3 step vent control, 4 step vent control, 5 step vent control				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Control of a ventilator or fan in 3, 4 or 5 steps	Value 1 Byte	⇨	Fan value	Value 1 Byte
	Status value 1 Byte	⇨	Fan status	

Behaviour in the *App*:
When moving the slider control the 1 Byte value telegram corresponding to the selected step is sent after the control is released. The slider control display is updated with the 1 Byte status object.

Fan Coil Vent control (DPT5.001)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Control of the ventilator or fan speed. You use the *Vent speed 1/2/3* objects to specify the desired speed in percentage terms for each step. Example: Step 1 = 34%, Step 2 = 67%, Step 3 = 100%	Value 1 Byte (%)	⇨	Setting value for ventilator	Value 1 Byte (%)
	Status value 1 Byte (%)	⇨	Ventilator step status feedback	
	Vent speed 1 (%)	⇨	Ventilator step 1	
	Vent speed 2 (%)	⇨	Ventilator step 2	
	Vent speed 3 (%)	⇨	Ventilator step 3	

Behaviour in the *App*:
When moving the slider control the 1 Byte value telegram corresponding to the selected step is sent after the control is released. The slider control display is updated with the 1 Byte status object according to the speed steps you have set. Example: display of step 1 up to 34%, step 2 up to 67%, step 3 up to 100%.

Mitsubishi AC mode control (DPT20.105)				
Mitsubishi AC mode control				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Toggling between operating modes via 1 Byte.	Mode selection (1 Byte)	⇨	Operating mode	Mode selection (1 Byte)
	Mode status (1 Byte)	⇨	Operating mode status	

Behaviour in the *App*:
Tapping an icon sends a 1 Byte telegram. The user can choose between the modes Automatic, Heating, Cooling, Ventilation, Room dehumidification.

Mitsubishi AC vane control				
Application	***Builder* objects**		**Meaning**	**Status query receiver**
Control the slat position of a Mitsubishi air conditioning system.	Value 1 Byte	⇨	Slat position	Value 1 Byte
	Status value 1 Byte	⇨	Slat status feedback	

Behaviour in the *App*:
When moving the slider control the 1 Byte value telegram corresponding to the selected step is sent after the control is released. The slider control display is updated wih the 1 Byte status feedback object.

Heating/Cooling mode control (1 bit)				
Application	***Builder* objects**		**Meaning**	**Status query receiver**
Switch between heating and cooling (Winter/Summer).	Heating/Cooling "1" mode (1 bit)	⇨	Heating/Winter = 1	All value objects
	Heating/Cooling "1" status (1 bit)	⇨	Status feedback Heating/Winter = 1	
	Heating/Cooling "0" mode (1 bit)	⇨	Heating/Winter = 0	
	Heating/Cooling "0" status (1 bit)	⇨	Status feedback Heating/Winter = 0	

Behaviour in the *App*:
Tapping an icon sends a 1 bit telegram.

Generic

Generic on/off control				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch devices on/off.	On/off value (1 bit)	⇨	Switch object	On/off value (1 bit)
	On/off status (1 bit)	⇨	Status feedback object	

Behaviour in the *App*:
Tapping the icon = switch on/off. The user can only perform switching when the status is known.
This requires active status feedback from the KNX actuator.

Generic on/off control with forced update				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Switch devices on/off.	On/off value (1 bit)	⇨	Switch object	On/off value (1 bit)
	On/off status (1 bit)	⇨	Status feedback object	

Behaviour in the *App*:
Tapping the icon = switch on/off. The user can only perform switching when the status is known. After the switching telegram a read request is sent to the status feedback object of the actuator to ensure the status.

Scene activation 1 bit				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Control two device groups simultaneously. A telegram with the value "1" is sent and a second telegram with the value "0" is also sent. One telegram can thus switch the lighting off and the other can close the blinds.	Scene controlled by "1" (1 bit)	⇨	Scene object with the value "1"	No status query
	Scene controlled by "0" (1 bit)	⇨	Scene object with the value "0"	

Behaviour in the *App*:
When the icon is pressed for a long time, both 1 bit telegrams are sent. When the vibration function is enabled, the portable device vibrates as acknowledgement.

KNX Scene activation 1 Byte				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
Call up a scene with a scene address, e.g. a stored scene in the scene module of an actuator.	Scene (1 Byte)	⇨	Extension unit object, scene module	No status query
	KNX scene value (1 Byte)	⇨	Scene address (e.g. 12)	

Behaviour in the *App*:
When the icon is pressed for a long time, a 1 Byte telegram is sent. When the vibration function is enabled, the portable device vibrates as acknowledgement.

3 step generic slider (1 Byte), 4 step generic slider (1 Byte), 5 step generic slider (1 Byte), generic slider (1 Byte)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To change a value in 3, 4 or 5 steps or continuously.	Value 1 Byte	⇨	Value object	Value 1 Byte
	Scene value 1 Byte	⇨	Status feedback object	

Behaviour in the *App*:
When moving the slider control the 1 Byte value telegram corresponding to the selected step is sent after the control is released. The slider control display is updated with the 1 Byte status feedback object.

Warning notifications

Fire notification				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display the presence of smoke due to a possible fire.	Fire notification (1 bit)	⇨	Status feedback object	Fire notification (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. With a 0 telegram a house is displayed without an icon. When the object contains a 1 telegram, the icon is displayed in red. The user can display and acknowledge the warning notification in a pop-up window (see *Settings* in the App).

Flood notification				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
For indicating an unusually high water level.	Flood notification (1 bit)	⇨	Status feedback object	Flood notification (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. With a 0 telegram a house is displayed without an icon. When the object contains a 1 telegram, the icon is displayed in red. The user can display and acknowledge the warning notification in a pop-up window (see *Settings* in the App).

Gas leak notification				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To indicate an unusually high concentration of gas (e.g. CO_2).	Gas leak notification (1 bit)	⇨	Status feedback object	Gas leak notification (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. With a 0 telegram a house is displayed without an icon. When the object contains a 1 telegram, the icon is displayed in red. The user can display and acknowledge the warning notification in a pop-up window (see *Settings* in the App).

Wind notification				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To indicate a high wind speed.	Wind notification (1 bit)	⇨	Status feedback object	Wind notification (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. With a 0 telegram a house is displayed without an icon. When the object contains a 1 telegram, the icon is displayed in red. The user can display and acknowledge the warning notification in a pop-up window (see *Settings* in the App).

Presence notification				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To indicate a presence in an area.	Presence notification (1 bit)	⇨	Status feedback object	Presence notification (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. With a 0 telegram a house is displayed without an icon. When the object contains a 1 telegram, the icon is displayed in red. The user can display and acknowledge the warning notification in a pop-up window (see *Settings* in the App).

Indicators

21 °C

Temperature indicator (DPT9.001)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display the actual temperature in a room.	Temperature status (2 Byte)	⇨	Temperature value. Physical value	Temperature status (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

350 lux

Ambient light indicator (DPT9.004)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
For displaying the ambient light in lux.	Ambient light status (2 Byte)	⇨	Brightness value. Physical value	Ambient light status (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

12,3 m/s

Wind speed indicator (DPT9.005)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display the wind speed in m/s.	Wind speed status (2 Byte)	⇨	Wind speed Physical value	Wind speed status (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

324,5 mA

Current value (mA) (DPT9.021)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display a measured electrical current value.	Current status (mA) (2 Byte)	⇨	Current value. Physical value	Current status (mA) (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

674 mV

Voltage value (mV) (DPT9.020)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display a measured voltage value.	Voltage status (mV) (2 Byte)	⇨	Voltage value. Physical value	Voltage status (mV) (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

14,53 kWh

Energy meter (kWh) (DPT12.001)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display the measured energy consumption.	Energy status (kWh) (4 Byte)	⇨	Energy consumption. Physical value	Energy status (kWh) (4 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 4 Byte status object.

45 %

Humidity indicator (%) (DPT9.007), Humidity indicator (%) (DPT5.001)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display the humidity in a room.	Humidity status (%) (2 Byte)	⇨	Relative humidity value. Physical value	Humidity status (%) (2 Byte)
	Humidity status (%) (1 Byte)	⇨	Relative humidity value. Physical value	Humidity status (%) (1 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte or 1 Byte status object.

Air quality indicator (ppm) (DPT9.008)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
For displaying (e.g.) the CO2 content of the air.	Air quality status (2 Byte)	⇨	CO2 value. Physical value	Air quality status (2 Byte)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 2 Byte status object.

Rain indicator (1 bit)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display whether or not it is raining.	Rain status (1 bit)	⇨	Rain detector. Rain / no rain	Rain status (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 1 bit status object.
The cloud icon is displayed when it is raining. A sun icon is displayed when it is not raining.

Day/Night indicator (1 bit)				
Application	***Builder* objects**		***ETS* objects**	**Status query receiver**
To display whether it is day or night.	Day/night status (1 bit)	⇨	Brightness threshold	Day/night status (1 bit)

Behaviour in the *App*:
Tapping or pressing the icon = no reaction. The display is updated via the 1 bit status object.
When the brightness reaches a specific value, then the sun icon is displayed. Below this brightness threshold a moon icon is displayed.

IP Video

Axis PTZ camera (Android only) Axis camera PELCO camera without authentication				
Application	***Builder* objects**		**Meaning**	**Status query receiver**
For displaying a live camera view.	IP camera:	⇨	IP address of the camera	No status query
	User:	⇨	User name for authentication	
	Password:	⇨	Individual password for authentication	
	Public access port:	⇨	Enter the port number	

Behaviour in the *App*:
Tapping an icon displays the live view of the camera.

Uninstalling

Uninstalling from Windows

① Run *KNXInSideControl for Windows.exe* and follow the installation wizard instructions.
② Click *Continue*.
③ Click *Uninstall.*
④ Click *Delete*.
⇒ The system deletes all data.
⑤ Click *Close.*
⇒ The installation wizard closes and the program is now uninstalled.

Uninstalling from Mac OS X

① Open the *Applications* folder.
② Select the file *InSideControl Builder xx.x.x.for Mac.app*.
⇒ The file icon appears.
③ Drag the icon onto the operating system trash can.
⇒ The program is uninstalled.

InSideControl App/HD App

Installing the App / HD App on portable devices

iOS

① Load the *InSideControl App* or *InSideControl HD App* from the Apple Store.

① Load the *InSideControl App* or *InSideControl HD App* from the Google Play Store.

The latest software for Windows and MAC OS X, along with the relevant documentation, is available at www.schneider-electric.com ordirectly under the following QR code.

http://www2.schneider-electric.com/sites/corporate/en/products-services/product-launch/knx/knx-inside-control.page

Without a loaded configuration file the *App/HD App* starts in demo mode. The special features of the demo mode and the procedure for activating/deactivating the demo mode are described in Section Settings --> 33.

Settings

In the settings, you can adapt the behaviour of the InSideControl, activate/deactivate the demo mode and connect your portable device with the IP gateway.

Open settings

① Start the *App/HD App*.
② Tap the menu icon or press the [Menu] button. Consult the manual for your portable device for information on which icon or button is appropriate.
③ Tap Settings.

iOS

① Start *Settings* in the main menu.
② Select *InSideControl* from the list of installed applications.

The following section describes the settings that can be made under Android. Minor differences exist between the Apple menu items and the Android menu items.

Customization

Under Android the following settings are available under the *Customization* menu item:

- Keep screen enabled
- Enable warning notifications
- Visual Style

Auto-lock Screen

Keep screen enabled

When this option is selected, the screen remains switched on when the *App/HD App* is active.

Enable notification pop-ups

Enable warning notifications

When this option is selected, warning notifications from your KNX installation are displayed in a pop-up window.

Warning notifications are only displayed in a pop-up window when InSideControl is active. A warning notification will not activate the *App/HD App* or wake the portable device from Standby mode.

Display settings

Visual Style

You can select a predefined colour scheme here.

Demo mode

Selecting this option places the *App/HD App* in the demo mode.
In demo mode you can test the behaviour of the *App/HD App* without being connected to a KNX installation.
Predefined rooms and devices representing a common KNX installation are displayed. All icons and buttons react as if a KNX installation were connected.

The demo mode is always active when a configuration file has not been loaded. You can only deactivate the demo mode after you have loaded a configuration file. A status message is shown in the status bar when the *App/HD App* is in the demo mode.

Connection Settings

The exact procedure for connecting the portable device to the IP gateway is outlined in this Section: Connecting portable devices to the IP gateway --> 38

Application status

The application status indicates whether or not InSideControl is working correctly. The MAC address to be used for establishing the connection is also displayed.

Autodiscover

When this option is selected, the *App/HD App* searches for valid IP gateways in the local network. The IP address and port of the IP gateway do not need to be manually entered. If the IP gateway is found, the *App/HD App* connects automatically.

We recommend that the IP address and the port be entered manually if there is more than one IP gateway or other KNX netIP devices in your LAN.

IP Address

Enter the IP address of your IP gateway here.

The IP gateway must be assigned a fixed IP address in the network.

Port

Enter the port for your IP gateway here. The standard port address is: 3671

Remote access

With remote access, you can access your KNX installation via the Internet. With this type of access, you have **no security features** to guarantee secure access to your KNX installation.

ATTENTION

Danger of material damage through unauthorised access to the KNX installation.

This type of access has no security features, such as authentication, encryption or integrity. If you connect to your KNX installation via remote access, the data traffic can be read, changed or diverted by third parties without restriction.

The person carrying out the access must have proven detailed knowledge of the following areas:

- Selecting and configuring the site router
- Setting up a DDNS service
- Port forwarding

Always have the remote access set up and commissioned by a specialist service provider.

Schneider Electric cannot be held responsible for performance problems and incompatibilities caused by applications, services or devices from third-party providers.

Schneider Electric is not liable for material damage caused by unauthorised access to your KNX installation.

Schneider Electric offers no technical support when setting up a remote access.

We recommend using a VPN access when accessing the KNX installation via the Internet. More information on this is provided in Section VPN access --> 40

Secondary IP Address

Enter the IP address for the remote access here.

Secondary Port

Enter the port for the remote access here.

Transferring the configuration file to portable devices

The configuration consists of a file with the extension *.knx* and contains the options for your KNX installation. Without a configuration file, you cannot control any elements of your KNX installation.

In the iOS operating system

Files can only be copied to Apple portable devices using the iTunes program. iTunes must be installed on a PC or Mac. You can download iTunes free of charge from http://www.apple.com/de/itunes/.

Transferring the configuration file

③ Connect the portable device to your computer.

④ Start *iTunes*.

⑤ Select the portable device Ⓐ onto which the file is to be transferred.

⑥ Click *Apps* Ⓑ .

⑦ Navigate to the menu item *File Sharing* Ⓒ.

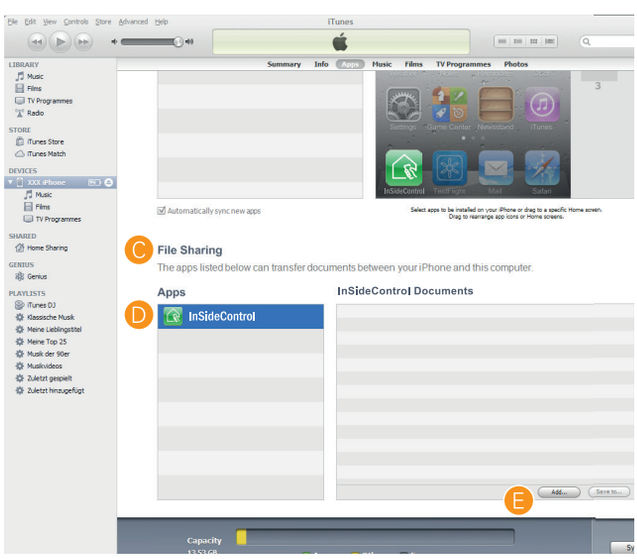
⑧ Select the *InSideControl* application Ⓓ.

⇒ The list with the shared files is shown.

If there is already a file here, click on it and delete it with the [Delete] button.

⑨ Click on *Add...* Ⓔ to load a configuration from your computer.

⇒ The configuration file is copied to your portable device.



The configuration file is usually copied to your portable device immediately.
If the transfer was unsuccessful, you can start the copy process again with *Sync*.

For the configuration file to be read, the *App/HD App* must be closed completely and restarted. Consult your operating system manual for information on how to close an application completely.

In the Android operating system

The Android operating system offers a range of options for transferring a file. Below is a description of the most common case, which applies to almost all portable devices with the Android operating system.

Consult the manual for your portable device to find out about alternative file transfer options.

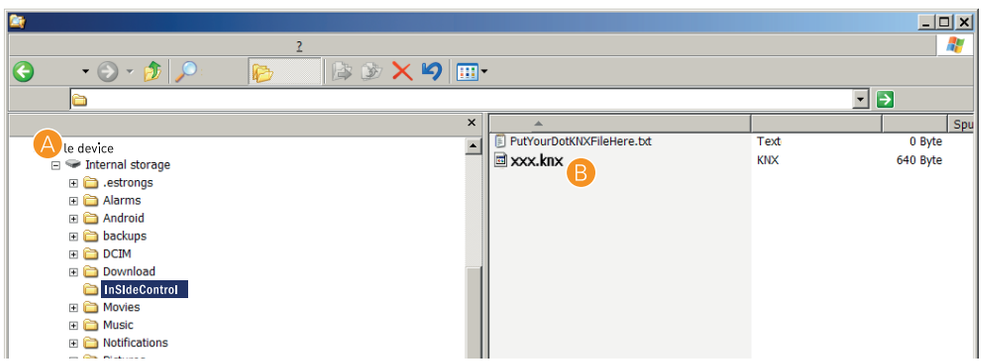
Transferring the configuration file

① Connect the portable device to your computer.

② Open your file manager.

③ Select your portable device Ⓐ.

④ Copy the configuration file to the directory " ...\InSideControl\" Ⓑ.



⑤ Disconnect the portable device from your computer.

For the configuration file to be read, the *App/HD App* must be closed completely and re-started. Consult your operating system manual for information on how to close an application completely.

Connecting portable devices to the IP gateway

To allow the *App/HD App* to access your KNX installation, an IP gateway (Art. No.: xxx6500-0113) must be installed in your KNX installation. The IP address of the IP gateway can be assigned via a DHCP server or via manual configuration as an ETS parameter. The exact procedure can be found in the software application for the IP gateway.

There are two ways to access the KNX installation via the IP gateway:

- WLAN access
- VPN access

WLAN access

For WLAN access, the IP gateway and the portable device are in the same network (WLAN). To control the KNX installation, the IP address/port of the IP gateway must be made known to the portable device.

You can establish the connection either automatically or manually.

Establishing an automatic connection

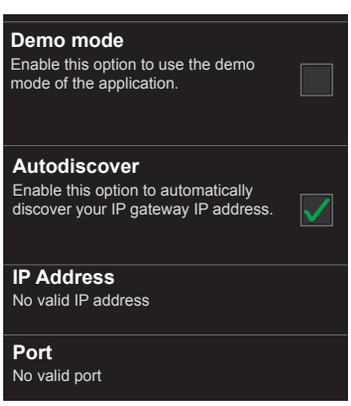
If one IP gateway is available in your KNX installation or no fixed IP address is assigned to the IP gateway, the connection should be set up automatically.

① Open Settings (see Settings --> 33).

② Deactivate the *Demo mode* option.

③ Activate the *Autodiscover* option.

⇒ The IP gateway is searched for in the network.
If an IP gateway is found, the *App/HD App* connects automatically.


Demo mode
Enable this option to use the demo mode of the application.
Autodiscover
Enable this option to automatically discover your IP gateway IP address.
IP Address
No valid IP address
Port
No valid port

Establishing a manual connection

If multiple IP gateways are present in your KNX installation, or if a fixed IP address is assigned to the IP gateway, the connection should be established manually.

① Open Settings (see Settings --> 33).

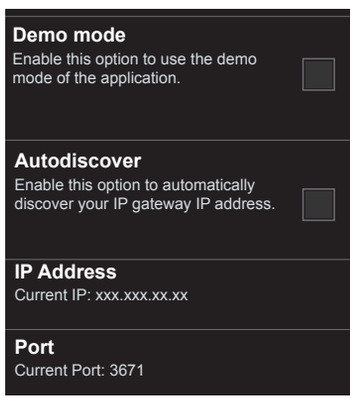
② Deactivate the *Demo mode* option.

③ Deactivate the *Autodiscover* option.

④ Enter the *IP Address*.

⑤ Enter the *Port*.

⑥ Close the *App* and then restart the *App*.


Demo mode
Enable this option to use the demo mode of the application.
Autodiscover
Enable this option to automatically discover your IP gateway IP address.
IP Address
Current IP: xxx.xxx.xx.xx
Port
Current Port: 3671

Consult your operating system manual for information on how to close an application completely.

VPN access

The VPN access (VPN = Virtual Private Network) authorises the portable device to access the local network, and therefore also the KNX installation, via the Internet.

Benefits of VPN:

- Only authorised users have access to the local network.
- All data is encrypted.
- The data is not changed, recorded or diverted during the transfer. This is often referred to as a VPN tunnel.

Requirements for setting up a VPN connection:

- Internet connection
- The portable device and the router are enabled for a VPN connection (VPN client installed)

ATTENTION

Danger of material damage through unauthorised access to the KNX installation.

As soon as you access the KNX installation via the Internet, the data traffic can be read by third parties.

- Only use a VPN access for this connection with a secure encryption for all data packages.
- The required hardware (VPN router) and the features offered by mobile service providers differ significantly with regard to the settings and technical possibilities depending on the country or region.

Always have the VPN access set up and commissioned by a specialist VPN service provider. The VPN service provider selects a suitable mobile service provider and suitable hardware for the VPN access and ensures that the VPN is set up by a qualified specialist.

Schneider Electric cannot be held responsible for performance problems and incompatibilities caused by applications, services or devices from third-party providers.

Schneider Electric offers no technical support when setting up a VPN access.

Appendix

Trademarks

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Other brands and registered trademarks are the property of the relevant owner.

Licensing rights

The *InSideControl App* and *InSideControl HD App* can be downloaded from the App Store or Google Play Store and run in demo mode free of charge.

The licence and full range of functions can be purchased with the specially developed KNX InSideControl IP gateway from Schneider Electric. Only with this IP gateway can you control your house and visualise the functions on your portable device.

To make the configuration available on the portable device, you need the software *InSideControl Builder*, which is available to download free of charge from www.schneider-electric.com.

Glossary

Use	Explanation
App	Abbreviation for *InSideControl App*. Application (App) for a Smartphone based on iOS or Android
HD App	Abbreviation for *InSideControl HD App*. Application (App) for a tablet based on iOS or Android
Builder	Abbreviation for *InSideControl Builder*. Software in which the control for the App is configured.
DDNS	Abbreviation for Dynamic Domain Name System
Demo mode	In demo mode, you can navigate in the *InSideControl App/HD App* and try out the different functions, but not control your house.
Functions	Devices have functions which you can call up with the portable device. You can switch a lamp on or off or even show the results of a function, such as warning notifications or the status of a device.
Devices	Devices are installations or machines with specific functions. Example: the heating has the function of heating the room.
IP gateway	Abbreviation for *KNX InSideControl IP gateway*. The portable device accesses the KNX system via the IP gateway, enabling it to control the individual functions and also receive feedback (e.g. warning notifications).
Configuration file	The configuration file is created by the system integrator in the software *InSideControl Builder* and is then transferred to the portable device. This file contains all information for the functions you wish to control in your house.
Portable devices	Portable devices that receive additional functions with an App. Examples of portable devices include Smartphones or tablets, but not laptops.

Use	Explanation
QR code	The QR code (QR = Quick Response) is a 2D code which is made up of dots in the shape of a square. Smartphones or tablets can read this information if a relevant App has been installed.
Smartphone	Mobile phone that can be individually equipped with additional programs (Apps).
Tablet	Mobile computer that can be equipped with individual functions through additional programs (HD Apps).
VPN	Abbreviation for Virtual Private Network. VPN refers to a computer network between at least two participants that uses the Internet as a transport level. There is no public access to this Internet connection, however. As only specific authorised computers participate in this network and the VPN data packages are transmitted in encrypted form, i.e. cannot be viewed by external parties, this is also often referred to as a VPN tunnel.
WAN	Abbreviation for Wide Area Network. A WAN is a computer network that links different local networks and individual computers at different sites all over the world. WANs use private or public networks. The Internet is the most widely known public network.
Wi-Fi	Wi-Fi refers to devices that are manufactured according to the Wi-Fi Alliance standard and that can communicate with each other wirelessly across all manufacturers. Devices of the members with the relevant certification are given the Wi-Fi logo.
WLAN	Abbreviation for Wireless Local Area Network. WLAN is a local network that works with wireless communication. There are ad-hoc networks (with just two computers) and infrastructure networks, where a large number of computers communicate with each other via a central point. In some countries, the term Wi-Fi is used as a synonym for WLAN.